

HOUSE PRICE INDIA

NAME: SHALINI P R P

Assignment3.ipynb

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Files

sample_data
House Price India.csv
archive (6).zip

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[1] !unzip '/content/archive (6).zip'

Archive: /content/archive (6).zip
replace House Price India.csv? [y]es, [n]o, [A]ll, [N]one, [r]ename: y
inflating: House Price India.csv

[2] import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns

[3] df=pd.read_csv('/content/House Price India.csv')

[4] df.head()

	id	Date	number of bedrooms	number of bathrooms	living area	lot area	number of floors	waterfront present	number of views	condition of the house	...	Built Year	Renovation Year	Postal Code	Latitude	Longitude
0	6762810145	42491	5	2.50	3650	9050	2.0	0	4	5	...	1921	0	122003	52.8645	-114.1
1	6762810635	42491	4	2.50	2920	4000	1.5	0	0	5	...	1909	0	122004	52.8878	-114.1
2	6762810998	42491	5	2.75	2910	9480	1.5	0	0	3	...	1939	0	122004	52.8852	-114.1
3	6762812605	42491	4	2.50	3310	42998	2.0	0	0	3	...	2001	0	122005	52.9532	-114.1
4	6762812919	42491	3	2.00	2710	4500	1.5	0	0	4	...	1929	0	122006	52.9047	-114.1

5 rows x 23 columns

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[5] df.shape

(14620, 23)

[6] ##Univariate Analysis
df_price = df.loc[df['Price']>=3000000]
df_year = df.loc[df['Built Year']>1990]
df_ryear = df.loc[df['Renovation Year']>2000]

[7] df.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 14620 entries, 0 to 14619
Data columns (total 23 columns):
Column Non-Null Count Dtype

0 id 14620 non-null int64
1 Date 14620 non-null int64
2 number of bedrooms 14620 non-null int64
3 number of bathrooms 14620 non-null float64
4 living area 14620 non-null int64
5 lot area 14620 non-null int64
6 number of floors 14620 non-null float64
7 waterfront present 14620 non-null int64
8 number of views 14620 non-null int64
9 condition of the house 14620 non-null int64
10 grade of the house 14620 non-null int64
11 Area of the house(excluding basement) 14620 non-null int64
12 Area of the basement 14620 non-null int64
13 Built Year 14620 non-null int64
14 Renovation Year 14620 non-null int64
15 Postal Code 14620 non-null int64
16 Latitude 14620 non-null float64

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[7] df.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 14620 entries, 0 to 14619
Data columns (total 23 columns):
Column Non-Null Count Dtype

0 id 14620 non-null int64
1 Date 14620 non-null int64
2 number of bedrooms 14620 non-null int64
3 number of bathrooms 14620 non-null float64
4 living area 14620 non-null int64
5 lot area 14620 non-null int64
6 number of floors 14620 non-null float64
7 waterfront present 14620 non-null int64
8 number of views 14620 non-null int64
9 condition of the house 14620 non-null int64
10 grade of the house 14620 non-null int64
11 Area of the house(excluding basement) 14620 non-null int64
12 Area of the basement 14620 non-null int64
13 Built Year 14620 non-null int64
14 Renovation Year 14620 non-null int64
15 Postal Code 14620 non-null int64
16 Latitude 14620 non-null float64
17 Longitude 14620 non-null float64
18 living_area_renov 14620 non-null int64
19 lot_area_renov 14620 non-null int64
20 Number of schools nearby 14620 non-null int64
21 Distance from the airport 14620 non-null int64
22 Price 14620 non-null int64
dtypes: float64(4), int64(19)
memory usage: 2.6 MB

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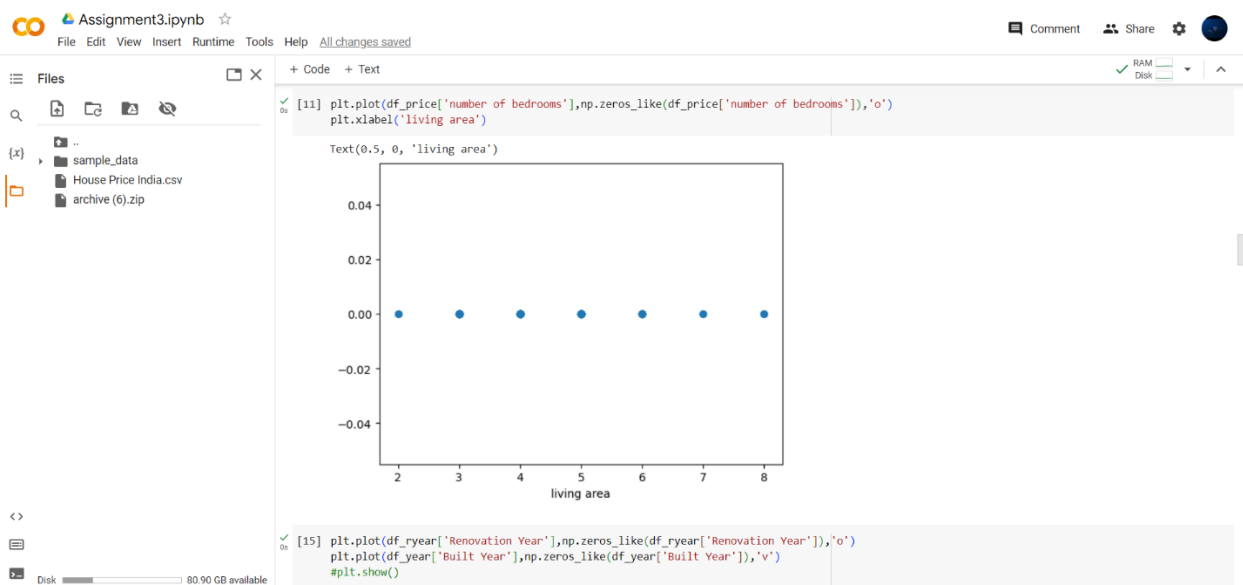
House Price India.csv

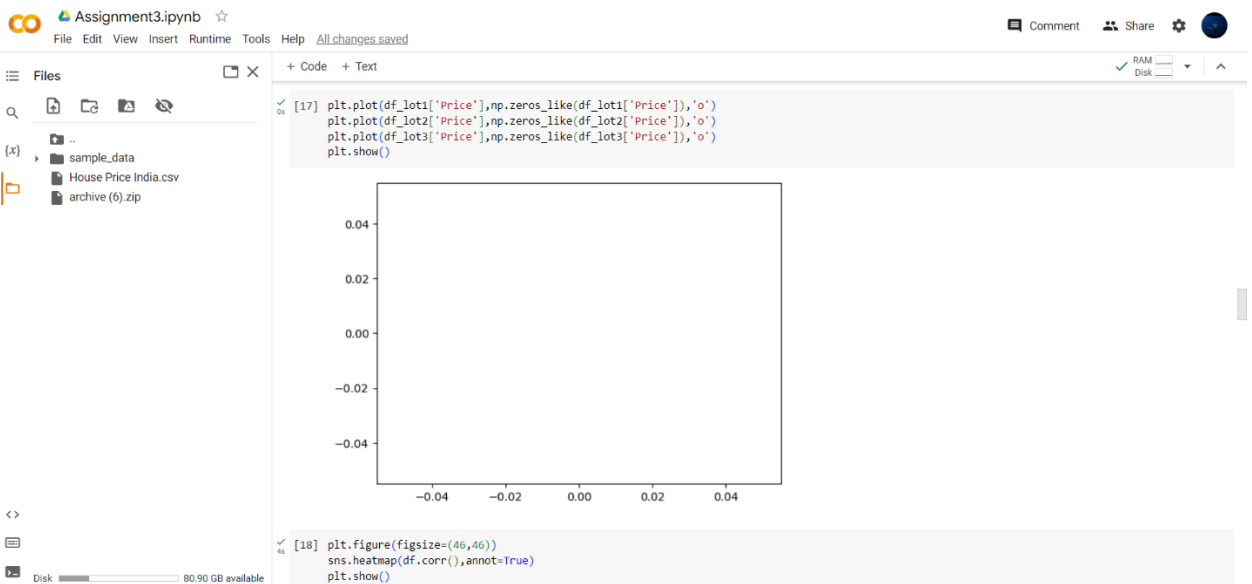
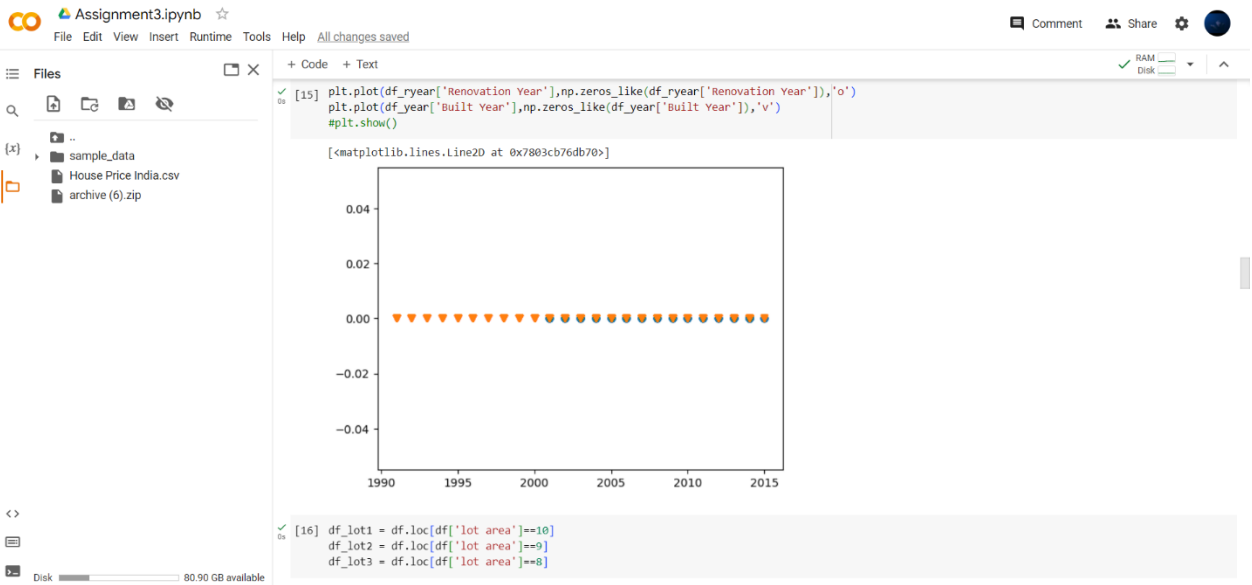
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[9] df_price

	id	Date	number of bedrooms	number of bathrooms	living area	lot area	number of floors	waterfront present	number of views	condition of the house	Built Year	Renovation Year	Postal Code	Latitude
243	6762810052	42496	7	4.50	6210	8856	2.5	0	2	5	1910	0	122061	52.8607
1622	6762810059	42518	6	4.25	6980	15682	3.0	0	4	4	1999	0	122057	52.7852
1697	6762810035	42519	4	3.50	5550	28078	2.0	0	2	4	2000	0	122071	52.8695
2424	6762810021	42531	5	4.50	10040	37325	2.0	1	2	3	1940	2001	122048	52.8800
2794	6762810027	42537	5	6.75	9640	13068	1.0	1	4	3	1983	2009	122057	52.7870
2907	6762810029	42538	4	3.00	6430	27517	2.0	0	0	3	2001	0	122048	52.8508
2908	6762810065	42538	4	4.25	4850	12445	2.0	1	4	5	1989	0	122033	52.9311
3234	6762810043	42543	3	4.50	5230	17826	2.0	1	4	3	2005	0	122057	52.7648
3376	6762810062	42544	4	5.00	4550	18641	1.0	1	4	3	2002	0	122019	52.8353
3946	6762810033	42551	5	5.50	7050	42840	1.0	0	2	4	1978	0	122048	52.8529
4061	6762810047	42552	5	6.25	8020	21738	2.0	0	0	3	2001	0	122027	52.7975
5887	6762810060	42579	5	5.25	5090	23669	2.0	0	0	3	2006	0	122048	52.8597
6244	6762810023	42585	5	5.75	9200	35089	2.0	0	0	3	2001	0	122071	52.8589
6674	6762810066	42592	3	3.50	4410	10756	2.0	1	4	3	2014	0	122053	52.7583
6781	6762810053	42593	4	3.25	7000	28206	1.0	1	4	4	1991	0	122020	52.8228
7697	6762810061	42606	3	3.00	3920	13085	2.0	1	4	4	1996	0	122057	52.8016

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[20] df.describe()

	id	Date	number of bedrooms	number of bathrooms	living area	lot area	number of floors	waterfront present	number of views	condition of the house	..
count	1.462000e+04	14620.000000	14620.000000	14620.000000	14620.000000	1.462000e+04	14620.000000	14620.000000	14620.000000	14620.000000	..
mean	6.762821e+09	42604.538646	3.379343	2.129583	2098.262996	1.509328e+04	1.502360	0.007661	0.233105	3.430506	..
std	6.237575e+03	67.347991	0.938719	0.769934	928.275721	3.791962e+04	0.540239	0.087193	0.766259	0.664151	..
min	6.762810e+09	42491.000000	1.000000	0.500000	370.000000	5.200000e+02	1.000000	0.000000	0.000000	1.000000	..
25%	6.762815e+09	42546.000000	3.000000	1.750000	1440.000000	5.010750e+03	1.000000	0.000000	0.000000	3.000000	..
50%	6.762821e+09	42600.000000	3.000000	2.250000	1930.000000	7.620000e+03	1.500000	0.000000	0.000000	3.000000	..
75%	6.762826e+09	42662.000000	4.000000	2.500000	2570.000000	1.080000e+04	2.000000	0.000000	0.000000	4.000000	..
max	6.762832e+09	42734.000000	33.000000	8.000000	13540.000000	1.074218e+06	3.500000	1.000000	4.000000	5.000000	..

8 rows x 23 columns

[21] df['number of bedrooms'].value_counts()

3	6612
4	4724
2	1844
5	1079
6	176
1	136
7	30
8	11
9	3
10	3
33	1
11	1

Name: number of bedrooms, dtype: int64

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Code

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[21] df['number of bedrooms'].value_counts()

3	6612
4	4724
2	1844
5	1079
6	176
1	136
7	30
8	11
9	3
10	3
33	1
11	1

Name: number of bedrooms, dtype: int64

[22] df['number of bedrooms'].value_counts().to_frame()

number of bedrooms	
3	6612
4	4724
2	1844
5	1079
6	176
1	136
7	30
8	11

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[22]

9	3
10	3
33	1
11	1

[23]

```
new_count = df['number of bedrooms'].value_counts().to_frame()
new_count.rename(columns={'number of bedrooms':'new count'},inplace = True)
new_count
```

new count	
3	6612
4	4724
2	1844
5	1079
6	176
1	136
7	30
8	11
9	3
10	3
33	1

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[23]

10	3
33	1
11	1

[24]

```
new_count.index.name = "s.no"
new_count
```

new count	
s.no	
3	6612
4	4724
2	1844
5	1079
6	176
1	136
7	30
8	11
9	3
10	3
33	1
11	1

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✓ [25] df.isnull()

	id	Date	number of bedrooms	number of bathrooms	living area	lot area	number of floors	waterfront present	number of views	condition of the house	...	Built Year	Renovation Year	Postal Code	Latitude	Longitude
0	False	False	False	False	False	False	False	False	False	False	...	False	False	False	False	False
1	False	False	False	False	False	False	False	False	False	False	...	False	False	False	False	False
2	False	False	False	False	False	False	False	False	False	False	...	False	False	False	False	False
3	False	False	False	False	False	False	False	False	False	False	...	False	False	False	False	False
4	False	False	False	False	False	False	False	False	False	False	...	False	False	False	False	False
...
14615	False	False	False	False	False	False	False	False	False	False	...	False	False	False	False	False
14616	False	False	False	False	False	False	False	False	False	False	...	False	False	False	False	False
14617	False	False	False	False	False	False	False	False	False	False	...	False	False	False	False	False
14618	False	False	False	False	False	False	False	False	False	False	...	False	False	False	False	False
14619	False	False	False	False	False	False	False	False	False	False	...	False	False	False	False	False

14620 rows x 23 columns

✓ [26] df.isnull().sum()

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✓ [25] 14620 rows x 23 columns

✓ [26] df.isnull().sum()

id	0
Date	0
number of bedrooms	0
number of bathrooms	0
living area	0
lot area	0
number of floors	0
waterfront present	0
number of views	0
condition of the house	0
grade of the house	0
Area of the house(excluding basement)	0
Area of the basement	0
Built Year	0
Renovation Year	0
Postal Code	0
Latitude	0
Longitude	0
living_area_renov	0
lot_area_renov	0
Number of schools nearby	0
Distance from the airport	0
Price	0
dtype: int64	